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<110> BERNSTEIN, Jeanne
LEVINE, Zurit

<120> VARIANTS OF ALTERNATIVE SPLICING

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<141> 2000-10-25

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gatttttaa aatttatatt gtaaatattg tgtgtgtgtg tgtgtgtgta tatatatata 1320
tatgtacagt tatctaagtt aatttaaagt tgtttgtgcc tttttatttt tgtttttaat 1380
gctttgatat ttcaatgtta gcctcaattt ctgaacacca taggtagaat gtaaagcttg 1440
tctgatcgtt caaagcatga aatggatact tatatggaaa ttctgctcag atagaatgac 1500
agtccgtcaa aacagattgt ttgcaaaggg gaggcatcag tgtccttggc aggctgattt 1560
ctaggtagga aatgtggtag cctcactttt aatgaacaaa tggcctttat taaaaactga 1620
gtgactctat atagctgatc agtttttca cctggaagca tttgtttcta ctttgatatg 1680
actgtttttc ggacagttta tttgttgaga gtgtgaccaa aagttacatg tttgcacctt 1740
tctagttgaa aataaagtgt atatttttc tataaaaaat gtcgacgcgg ccgcgaattt 1800
agtagtagta ggcggcagc 1819

<210> 21
<211> 2294
<212> DNA
<213> Homo sapiens

<400> 21
tcacaacaac tcttccccgc tgagaggaga cagccagtgc gactccaccc tccagctcga 60
cggcagccgc cccggccgac agccccgaga cgacagcccg gcgcgtcccg gtccccacct 120
ccgaccaccg ccagcgctcc aggccccgcc gctccccgct cgccgccacc gcgccctccg 180
ctccgcccgc agtgccaacc atgaccgccg ccagtatggg ccccgtccgc gtcgccttcg 240
tggtcctcct cgccctctgc agccggccgg ccgtcggcca gaactgcagc gggccgtgcc 300
ggtgcccgga cgagccggcg ccgcgctgcc cggcgggcgt gagcctcgtg ctggacggct 360
gcggctgctg ccgcgtctgc gccaagcagc tgggcgagct gtgcaccgag cgcgaccccct 420
gcgacccgca caagggcctc ttctgtgact tcggctcccc ggccaaccgc aagatcggcg 480
tgtgcaccgc caaagatggt gctccctgca tcttcggtgg tacggtgtac cgcagcggag 540
agtccttcca gagcagctgc aagtaccagt gcacgtgcct ggacggggcg gtgggctgca 600
tgcccctgtg cagcatggac gttcgtctgc ccagccctga ctgccccttc ccgagcttac 660
cgactggaag acacgtttgg cccagaccca actatgatta gagccaactg cctggtccag 720
accacagagt ggagcgcctg ttccaagacc tgtgggatgg gcatctccac ccgggttacc 780
aatgacaacg cctcctgcag gctagagaag cagagccgcc tgtgcatggt caggccttgc 840
gaagtgacct ggaagagaac attaagaagg gcaaaaagtg catccgtact cccaaaatct 900
ccaagcctat caagtttgag ctttctggct gcaccagcat gaagacatac cgagctaaat 960
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gtgcctgcca ttacaactgt cccggagaca atgacatctt tgaatcgctg tactacagga 1140
agatgtacgg agacatggca tgaagccaga gagtgagaga cattaactca ttagactgga 1200
acttgaactg attcacatct cattttccg taaaaatgat ttcagtagca caagttattt 1260
aaatctgttt ttctaactgg gggaaaagat tcccacccaa ttcaaaacat tgtgccatgt 1320
caaacaaata gtctatcaac cccagacact ggtttgaaga atgttaagac ttgacagtgg 1380
aactacatta gtacacagca ccagaatgta tattaaggtg tggctttagg agcagtggga 1440

gggtaccagc agaaaggtta gtatcatcag atagcatctt atacgagtaa tatgcctgct 1500
atttgaagtg taattgagaa ggaaaatttt agcgtgctca ctgacctgcc tgtagcccca 1560
gtgacagcta ggatgtgcat tctccagcca tcaagagact gagtcaagtt gttccttaag 1620
tcagaacagc agactcagct ctgacattct gattcgaatg acactgttca ggaatcggaa 1680
tcctgtcgat tagactggac agcttgtggc aagtgaattt gcctgtaaca agccagattt 1740
tttaaaattt atattgtaaa tattgtgtgt gtgtgtgtgt gtgtatatat atatatatgt 1800
acagttatct aagttaattt aaagttgttt gtgccttttt atttttgttt ttaatgcttt 1860
gatatttcaa tgttagcctc aatttctgaa caccataggt agaatgtaaa gcttgtctga 1920
tcgttcaaag catgaaatgg atacttatat ggaaattctg ctcagataga atgacagtcc 1980
gtcaaaacag attgtttgca aaggggaggc atcagtgtcc ttggcaggct gatttctagg 2040
taggaaatgt ggtagcctca cttttaatga acaaatggcc tttattaaaa actgagtgac 2100
tctatatagc tgatcagttt tttcacctgg aagcatttgt ttctactttg atatgactgt 2160
ttttcggaca gtttatttgt tgagagtgtg accaaaagtt acatgtttgc acctttctag 2220
ttgaaaataa agtgtatatt ttttctataa aaaatgtcga cgcggccgcg aatttagtag 2280
tagtaggcgg cagc 2294

<210> 22
<211> 594
<212> DNA
<213> Homo sapiens

<400> 22
tgaaatatgg agaatagtct tagatgtgtt tgggtaccca agctggcttt tgtactcttc 60
ggagcttcct tgctcagcgc gcatcttcaa gtaaccggtt ttcaaattaa agctttcaca 120
gcactgcgct tcctctcaga accttctgat gccgtcacaa tgcggggagg aaatgtcctc 180
ctcgactgct ccgcggagtc cgaccgagga gttccagtga tcaagtggaa gaaagatgca 240
ttcatctggc cttgggaatg gatgaaagga agcagcaact ttcaaatggg tctctgctga 300
tacaaaacat acttcattcc agacaccaca agccagatga gggactttac caatgtgagg 360
catctttagg agattctggc tcaattatta gtcggacagc aaaagttgca gtagcaggtc 420
ctacttagtc tagtctcatc ttggaagact gatcagaata actcattttc atcaataaca 480
ggacaattgg gcagaatcac cactccttca tgcactctcc tagtgagggt ctgagaaagt 540
tgaaatctga aagatgtgat tttgtcaggt ggtgctataa agaattacat ctca 594

<210> 23
<211> 881
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(881)
<223> any n = a, g, c, t, unknown, or other

<400> 23
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ggatgccgct gacatccggt tcgtctacac ccccgccatg gagagtgtct gcggatactt 120
ccacaggtcc cacaaccgca gcagaggagt ttctcattgc tggaaaactg caggatggac 180
tcttgcacat cactacctgc agtttcgtgg ctccctggaa cagcctgagc ttagctcagc 240
gccggggctt caccaagacc tacactgttg gctgtgagga atgcaagggc gaattccagc 300
acactggcgg ccgttactag tggatccgag ctcggtacca agcttgatgc atagcttgag 360
tattctatag tgtcacctaa atagcttggc gtaatcatgg tcatagctgt ttcctgtgtg 420
aaattgttat ccgctcacaa ttccacacaa catacgagcc ggaagcataa agtgtaaagc 480
ctggggtgcc taatgagtga gctaactcac attaattgcg ttgcgctcac tgcccgcttt 540
ccagtcggga aacctgtcgt gccagctgca ttaatgaatc ggccaacgcg cggggagagg 600
cggtttgcgt attgggcgct cttccgcttc ctcgctcact gactcgctgc gctcggtcgt 660
tcngctgcgg cgagcggtat cagctcactc aaangcggta atacggtttn cacagaatca 720
ggggataacg cagaaagaac atgtgagcaa aaggcagcaa aanggcagga accgnaaaag 780
gcgngttntg gcgttttcct aagctccgcc ccctgacnag catncaaant tnacgctcag 840

tanaggggg aacccgncag acttaaaant ccagcgttcc c 881

<210> 24
<211> 893
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(893)
<223> any n = a, g, c, t, unknown, or other

<400> 24
cttatacnag cgttatgaga tcaagnngac caaggtatcc cctgcccccg cctctttccc 60
agcattttct aacatcttcc tcctggtcaa aacagaaact tctggccact ggttggtgcg 120
agaaagttgg ctgtgatctt gggatgctat atgacttcag ggaagaacct ggagtgggag 180
gattatgtcg gtaaaagaga cacttcccct catccatcaa cagatgtata aagggttcca 240
agccttaggg gatgccgctg acatccggtt cgtctacacc cccgccatgg agagtgtctg 300
cggatacttc cacaggtccc acaaccgcag cgaggagttt ctcattgctg gtgaggcacc 360
gtccccgcgc cctgtgccac accaaccagt ccctggggcg cggcctagca accacgaggg 420
ggcgaggctc tgatgggaat ggtcccactg gaaatgggga ccaccccaat ttcagtctat 480
cagaaggccg ggcctttggc agcttggcag ctcagccaat cacaagctgc ttgtcggtcc 540
ccgccccgcc tttctcctta ggaaaactgc aggatggact cttgcacatc actacctgca 600
gttttgtggc tccctggaac agcctgagct tagctcagcg ccggggcttc accaagacct 660
acactgttgg ctgtgaggaa tgcaagggcg aattccagca cactggcggc cgttctagtg 720
gatccnagct cggnccaagc ttgatgcata gcttgagtat tctatagtgn cacctaaata 780
gcttggcgta tcatgggcat agctgttcct gnggaaatng ntatccgtna caattccnca 840
cacatncnan ccggaagnta aagngnaagc ctgggtgcna tgagngacta ctn 893

<210> 25
<211> 887
<212> DNA
<213> Homo sapiens

<400> 25
tcgaccgccc cttggcttct gcactgatgg tgggtggatg agtaatgcat ccaggaagcc 60
tggaggcctg tggtttccgc acccgctgcc acccccgccc ctagcgtgga catttatcct 120
ctagcgctca ggccctgccg ccatcgccgc agatccagcg cccagagaga caccagagaa 180
cccaccatgg ccccctttga gcccctggct tctggcatcc tgttgttgct gtggctgata 240
gcccccagca gggcctgcac ctgtgtccca ccccacccac agacggcctt ctgcaattcc 300
gacctcgtca tcagggccaa gttcgtgggg acaccagaag tcaaccagac caccttatac 360
cagcgttatg agatcaagat gaccaagatg tataaagggt tccaagcctt aggggatgcc 420
gctgacatcc ggttcgtcta cacccccgcc atggagagtg tctgcggata cttccacagg 480
atggactctt gcacatcact acctgcagtt tcgtggctcc ctggaacagc ctgagcttag 540
ctcagcgccg gggcttcacc aagacctaca ctgttggctg tgaggaatgc acagtgtttc 600
cctgtttatc catcccctgc aaactgcaga gtggcactca ttgcttgtgg acggaccagc 660
tcctccaagg ctctgaaaag ggcttccagt cccgtcacct tgcctgcctg cctcgggagc 720
cagggctgtg cacctggcag tccctgcggt cccagatagc ctgaatcctg cccggagtgg 780
aagctgaagc ctgcacagtg tccaccctgt tcccactccc atctttcttc cggacaatga 840
aataaagagt taccacccca acccaataaa actgatgtta ctagcca 887

<210> 26
<211> 814
<212> DNA
<213> Homo sapiens

<400> 26

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tcgaccgccc cttggcttct gcactgatgg tgggtggatg agtaatgcat ccaggaagcc 60
tggaggcctg tggtttccgc acccgctgcc acccccgccc ctagcgtgga catttatcct 120
ctagcgctca ggccctgccg ccatcgccgc agatccagcg cccagagaga caccagattc 180
tgcaattccg acctcgtcat cagggccaag ttcgtgggga caccagaagt caaccagacc 240
accttatacc agcgttatga gatcaagatg accaagatgt ataaagggtt ccaagcctta 300
ggggatgccg ctgacatccg gttcgtctac acccccgcca tggagagtgt ctgcggatac 360
ttccacaggt cccacaaccg cagcgaggag tttctcattg ctggaaaact gcaggatgga 420
ctcttgcaca tcactacctg cagtttcgtg gctccctgga acagcctgag cttagctcag 480
cgccggggct tcaccaagac ctacactgtt ggctgtgagg aatgcacagt gtttccctgt 540
ttatccatcc cctgcaaact gcagagtggc actcattgct tgtggacgga ccagctcctc 600
caaggctctg aaaagggctt ccagtcccgt caccttgcct gcctgcctcg ggagccaggg 660
ctgtgcacct ggcagtccct gcggtcccag atagcctgaa tcctgcccgg agtggaagct 720
gaagcctgca cagtgtccac cctgttccca ctcccatctt tcttccggac aatgaaataa 780
agagttacca cccagcagaa aaaacaaaca agtc                              814


<210> 27
<211> 481
<212> PRT
<213> Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(481)
<223>  any Xaa is any amino acid, unknown, or other

<400> 27
Met Arg Glu Asn Met Ala Arg Gly Pro Cys Asn Ala Pro Arg Trp Val
  1               5                  10                  15
Ser Leu Met Val Leu Val Ala Ile Gly Thr Ala Val Thr Ala Ala Val
             20                  25                  30
Asn Pro Gly Val Val Val Arg Ile Ser Gln Lys Gly Leu Asp Tyr Ala
         35                  40                  45
Ser Gln Gln Gly Thr Ala Ala Leu Gln Lys Glu Leu Lys Arg Ile Lys
     50                  55                  60
Ile Pro Asp Tyr Ser Asp Ser Phe Lys Ile Lys His Leu Gly Lys Gly
 65                  70                  75                  80
His Tyr Ser Phe Tyr Ser Met Asp Ile Arg Glu Phe Gln Leu Pro Ser
                 85                  90                  95
Ser Gln Ile Ser Met Val Pro Asn Val Gly Leu Lys Phe Ser Ile Ser
            100                 105                 110
Asn Ala Asn Ile Lys Ile Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe
        115                 120                 125
Leu Lys Met Ser Gly Asn Phe Asp Leu Ser Ile Glu Gly Met Ser Ile
    130                 135                 140
Ser Ala Asp Leu Lys Leu Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr
145                 150                 155                 160
Ile Thr Cys Ser Ser Cys Ser Ser His Ile Asn Ser Val His Val His
                165                 170                 175
Ile Ser Lys Ser Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys
            180                 185                 190
Ile Glu Ser Ala Leu Arg Asn Lys Met Asn Ser Gln Val Cys Glu Lys
        195                 200                 205
Val Thr Asn Ser Val Ser Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu
    210                 215                 220
Pro Val Met Thr Lys Ile Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu
225                 230                 235                 240
Val Ala Pro Pro Ala Thr Thr Ala Glu Thr Leu Asp Val Gln Met Lys
                245                 250                 255
Gly Glu Phe Tyr Ser Glu Asn His His Asn Pro Pro Pro Phe Ala Pro
```

```
            260                 265                 270
Pro Val Met Glu Phe Pro Ala Ala His Asp Arg Met Val Tyr Leu Gly
        275                 280                 285
Leu Ser Asp Tyr Phe Phe Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala
    290                 295                 300
Gly Val Leu Lys Met Thr Leu Arg Asp Asp Met Ile Pro Lys Glu Ser
305                 310                 315                 320
Lys Phe Arg Leu Thr Thr Lys Phe Phe Gly Thr Phe Leu Pro Glu Val
                325                 330                 335
Ala Lys Lys Phe Pro Asn Met Lys Ile Gln Ile His Val Ser Ala Ser
            340                 345                 350
Thr Pro Pro His Leu Ser Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro
        355                 360                 365
Ala Val Asp Val Gln Ala Phe Ala Val Leu Pro Asn Ser Ser Leu Ala
    370                 375                 380
Ser Leu Phe Leu Ile Gly Met Gly Lys Gln Phe Leu Gly Trp Thr Asp
385                 390                 395                 400
Glu Glu Pro Gln Thr Val Pro Thr Ala Leu Ser Leu Glu Ser Gly Asp
                405                 410                 415
His Val Asn Pro Val Trp Ile Gln Thr Trp Thr Val Ser Leu Arg Ser
            420                 425                 430
Leu Arg Leu Glu Ser Leu Tyr Ser Met Val Pro Thr Pro Gly Gly Ile
        435                 440                 445
His Ser Pro Ser His Ser Leu Val Arg Leu Phe Thr Tyr Ser Phe Asn
    450                 455                 460
Tyr Ser Phe Ser Gln Phe Leu Ile His Ser Xaa Ile His Ser Met Leu
465                 470                 475                 480
Ala
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<210> 28
<211> 628
<212> PRT
<213> Homo sapiens

<400> 28

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Met Gly Arg Leu Gln Leu Val Val Leu Gly Leu Thr Cys Cys Trp Ala
  1               5                  10                  15
Val Ala Ser Ala Ala Lys Leu Gly Ala Val Tyr Thr Glu Gly Gly Phe
            20                  25                  30
Val Glu Gly Val Asn Lys Lys Leu Gly Leu Leu Gly Asp Ser Val Asp
        35                  40                  45
Ile Phe Lys Gly Ile Pro Phe Ala Ala Pro Thr Lys Ala Leu Glu Asn
    50                  55                  60
Pro Gln Pro His Pro Gly Trp Gln Gly Thr Leu Lys Ala Lys Asn Phe
65                  70                  75                  80
Lys Lys Arg Cys Leu Gln Ala Thr Ile Thr Gln Asp Ser Thr Tyr Gly
                85                  90                  95
Asp Glu Asp Cys Leu Tyr Leu Asn Ile Trp Val Pro Gln Gly Arg Lys
            100                 105                 110
Gln Val Ser Arg Asp Leu Pro Val Met Ile Trp Ile Tyr Gly Gly Ala
        115                 120                 125
Phe Leu Met Gly Ser Gly His Gly Ala Asn Phe Leu Asn Asn Tyr Leu
    130                 135                 140
Tyr Asp Gly Glu Glu Ile Ala Thr Arg Gly Asn Val Ile Val Val Thr
145                 150                 155                 160
Phe Asn Tyr Arg Val Gly Pro Leu Gly Phe Leu Ser Thr Gly Asp Ala
                165                 170                 175
Asn Leu Pro Gly Asn Tyr Gly Leu Arg Asp Gln His Met Ala Ile Ala
```

```
            180                 185                 190
Trp Val Lys Arg Asn Ile Ala Ala Phe Gly Gly Asp Pro Asn Asn Ile
        195                 200                 205
Thr Leu Phe Gly Glu Ser Ala Gly Gly Ala Ser Val Ser Leu Gln Thr
    210                 215                 220
Leu Ser Pro Tyr Asn Lys Gly Leu Ile Arg Arg Ala Ile Ser Gln Ser
225                 230                 235                 240
Gly Val Ala Leu Ser Pro Trp Val Ile Gln Lys Asn Pro Leu Phe Trp
                245                 250                 255
Ala Lys Lys Val Ala Glu Lys Val Gly Cys Pro Val Gly Asp Ala Ala
            260                 265                 270
Arg Met Ala Gln Cys Leu Lys Val Thr Asp Pro Arg Ala Leu Thr Leu
        275                 280                 285
Ala Tyr Lys Val Pro Leu Ala Gly Leu Glu Tyr Pro Met Leu His Tyr
    290                 295                 300
Val Gly Phe Val Pro Val Ile Asp Gly Asp Phe Ile Pro Ala Asp Pro
305                 310                 315                 320
Ile Asn Leu Tyr Ala Asn Ala Ala Asp Ile Asp Tyr Ile Ala Gly Thr
                325                 330                 335
Asn Asn Met Asp Gly His Ile Phe Ala Ser Ile Asp Met Pro Ala Ile
            340                 345                 350
Asn Lys Gly Asn Lys Lys Val Thr Glu Glu Asp Phe Tyr Lys Leu Val
        355                 360                 365
Ser Glu Phe Thr Ile Thr Lys Gly Leu Arg Gly Ala Lys Thr Thr Phe
    370                 375                 380
Asp Val Tyr Thr Glu Ser Trp Ala Gln Asp Pro Ser Gln Glu Asn Lys
385                 390                 395                 400
Lys Lys Thr Val Val Asp Phe Glu Thr Asp Val Leu Phe Leu Val Pro
                405                 410                 415
Thr Glu Ile Ala Leu Ala Gln His Arg Ala Asn Ala Lys Ser Ala Lys
            420                 425                 430
Thr Tyr Ala Tyr Leu Phe Ser His Pro Ser Arg Met Pro Val Tyr Pro
        435                 440                 445
Lys Trp Val Gly Ala Asp His Ala Asp Asp Ile Gln Tyr Val Phe Gly
    450                 455                 460
Lys Pro Phe Ala Thr Pro Thr Gly Tyr Arg Pro Gln Asp Arg Thr Val
465                 470                 475                 480
Ser Lys Ala Met Ile Ala Tyr Trp Thr Asn Phe Ala Lys Thr Gly Asp
                485                 490                 495
Pro Asn Met Gly Asp Ser Ala Val Pro Thr His Trp Glu Pro Tyr Thr
            500                 505                 510
Thr Glu Asn Ser Gly Tyr Leu Glu Ile Thr Lys Lys Met Gly Ser Ser
        515                 520                 525
Ser Met Lys Arg Ser Leu Arg Thr Asn Phe Leu Arg Tyr Trp Thr Leu
    530                 535                 540
Thr Tyr Leu Ala Leu Pro Thr Val Thr Asp Gln Glu Ala Thr Pro Val
545                 550                 555                 560
Pro Pro Thr Gly Asp Ser Glu Ala Thr Pro Val Pro Pro Thr Gly Asp
                565                 570                 575
Ser Glu Thr Ala Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro
            580                 585                 590
Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly
        595                 600                 605
Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Glu Ala Arg
    610                 615                 620
Ala His Leu Gly
625
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<210> 29

<211> 641
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(641)
<223> any Xaa is any amino acid, unknown, or other

<400> 29

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Leu Leu Leu Leu Gly Phe Leu Leu Val Ser Leu Glu Ser Thr Leu Ser
  1               5                  10                  15
Ile Pro Pro Trp Glu Ala Pro Lys Glu His Lys Tyr Lys Ala Glu Glu
             20                  25                  30
His Thr Val Val Leu Thr Val Thr Gly Glu Pro Cys His Phe Pro Phe
         35                  40                  45
Gln Tyr His Arg Gln Leu Tyr His Lys Cys Thr His Lys Gly Arg Pro
     50                  55                  60
Gly Pro Gln Pro Trp Cys Ala Thr Thr Pro Asn Phe Asp Gln Asp Gln
 65                  70                  75                  80
Arg Trp Gly Tyr Cys Leu Glu Pro Lys Lys Val Lys Asp His Cys Ser
                 85                  90                  95
Lys His Ser Pro Cys Gln Lys Gly Gly Thr Cys Val Asn Met Pro Ser
            100                 105                 110
Gly Pro His Cys Leu Cys Pro Gln His Leu Thr Gly Asn His Cys Gln
        115                 120                 125
Lys Glu Lys Cys Phe Glu Pro Gln Leu Leu Arg Phe Phe His Lys Asn
    130                 135                 140
Glu Ile Trp Tyr Arg Thr Glu Gln Ala Ala Val Ala Arg Cys Gln Cys
145                 150                 155                 160
Lys Gly Pro Asp Ala His Cys Gln Arg Leu Ala Ser Gln Ala Cys Arg
                165                 170                 175
Thr Asn Pro Cys Leu His Gly Gly Arg Cys Leu Glu Val Glu Gly His
            180                 185                 190
Arg Leu Cys His Cys Pro Val Gly Tyr Thr Gly Pro Phe Cys Asp Val
        195                 200                 205
Asp Thr Lys Ala Ser Cys Tyr Asp Gly Arg Gly Leu Ser Tyr Arg Gly
    210                 215                 220
Leu Ala Arg Thr Thr Leu Ser Gly Ala Pro Cys Gln Pro Trp Ala Ser
225                 230                 235                 240
Glu Ala Thr Tyr Arg Asn Val Thr Ala Glu Gln Ala Arg Asn Trp Gly
                245                 250                 255
Leu Gly Gly His Ala Phe Cys Arg Asn Pro Asp Asn Asp Ile Arg Pro
            260                 265                 270
Trp Cys Phe Val Leu Asn Arg Asp Arg Leu Ser Trp Glu Tyr Cys Asp
        275                 280                 285
Leu Ala Gln Cys Gln Thr Pro Thr Gln Ala Ala Pro Pro Thr Pro Val
    290                 295                 300
Ser Pro Arg Leu His Val Pro Leu Met Pro Ala Gln Pro Ala Pro Pro
305                 310                 315                 320
Lys Pro Gln Pro Thr Thr Arg Thr Pro Pro Gln Ser Gln Thr Pro Gly
                325                 330                 335
Ala Leu Pro Ala Lys Arg Glu Gln Pro Pro Ser Leu Thr Arg Asn Gly
            340                 345                 350
Pro Leu Ser Cys Gly Gln Arg Leu Arg Lys Ser Leu Ser Ser Met Thr
        355                 360                 365
Arg Val Val Gly Gly Leu Val Ala Leu Arg Gly Ala His Pro Tyr Ile
    370                 375                 380
Ala Ala Leu Tyr Trp Gly His Ser Phe Cys Ala Gly Ser Leu Ile Ala
385                 390                 395                 400
```

```
Pro Cys Trp Val Leu Thr Ala Ala His Cys Leu Gln Asp Arg Pro Ala
                405                 410                 415
Pro Glu Asp Leu Thr Val Val Leu Gly Gln Glu Arg Arg Asn His Ser
            420                 425                 430
Cys Glu Pro Cys Gln Thr Leu Ala Val Arg Ser Tyr Arg Leu His Glu
        435                 440                 445
Ala Phe Ser Pro Val Ser Tyr Gln His Asp Leu Ala Leu Leu Arg Leu
    450                 455                 460
Gln Glu Asp Ala Asp Gly Ser Cys Ala Leu Leu Ser Pro Tyr Val Gln
465                 470                 475                 480
Pro Val Cys Leu Pro Ser Gly Ala Ala Arg Pro Ser Glu Thr Thr Leu
                485                 490                 495
Cys Gln Val Ala Gly Trp Gly His Gln Phe Glu Gly Ala Glu Glu Tyr
            500                 505                 510
Ala Ser Phe Leu Gln Glu Ala Gln Val Pro Phe Leu Ser Leu Glu Arg
        515                 520                 525
Cys Ser Ala Pro Asp Val His Gly Ser Ser Ile Leu Pro Gly Met Leu
    530                 535                 540
Cys Ala Gly Phe Leu Glu Gly Gly Thr Asp Ala Cys Ala Gly Glu Leu
545                 550                 555                 560
Leu Ala Gly Trp Arg Pro Ser Pro Arg Pro Ser Ala Xaa Ser Gln Val
                565                 570                 575
His Ser Ala Asp Cys Val Phe Pro Thr Gln Gly Asp Ser Gly Gly Pro
            580                 585                 590
Leu Val Cys Glu Asp Gln Ala Ala Glu Arg Arg Leu Thr Leu Gln Gly
        595                 600                 605
Ile Ile Ser Trp Gly Ser Gly Cys Gly Asp Arg Asn Lys Pro Gly Val
    610                 615                 620
Tyr Thr Asp Val Ala Tyr Tyr Leu Ala Trp Ile Arg Glu His Thr Val
625                 630                 635                 640
Ser
```

<210> 30
<211> 164
<212> PRT
<213> Homo sapiens

<400> 30

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Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
  1               5                  10                  15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
             20                  25                  30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
         35                  40                  45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
     50                  55                  60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
 65                  70                  75                  80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
                 85                  90                  95
His Arg Ser His Asn Arg Ser Glu Glu Phe Leu Ile Ala Gly Lys Leu
            100                 105                 110
Gln Asp Gly Leu Leu His Ile Thr Thr Cys Ser Phe Val Ala Pro Trp
        115                 120                 125
Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly Phe Thr Lys Thr Tyr Thr
    130                 135                 140
Val Gly Cys Glu Glu Cys Thr Val Phe Pro Cys Ser His Ser His Leu
145                 150                 155                 160
```

Ser Ser Gly Gln

<210> 31
<211> 123
<212> PRT
<213> Homo sapiens

<400> 31
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
1 5 10 15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
20 25 30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
35 40 45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
50 55 60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
65 70 75 80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
85 90 95
His Arg Ser His Asn Arg Ser Glu Glu Phe Leu Ile Ala Gly Lys Leu
100 105 110
Gln Val Val Met Cys Lys Ser Pro Ser Val Val
115 120

<210> 32
<211> 211
<212> PRT
<213> Homo sapiens

<400> 32
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
1 5 10 15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
20 25 30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
35 40 45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
50 55 60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
65 70 75 80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
85 90 95
His Arg Ser His Asn Arg Ser Glu Glu Phe Leu Ile Leu Leu Gly Lys
100 105 110
Leu Gln Asp Gly Ile Phe Ala His Ser Leu Thr Cys Ser Phe Cys Trp
115 120 125
Val Pro Trp Glu Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly Phe Thr
130 135 140
Lys Thr Tyr Thr Val Gly Cys Glu Glu Cys Thr Val Phe Pro Cys Leu
145 150 155 160
Ser Ile Pro Cys Lys Leu Gln Ser Gly Thr His Cys Leu Trp Thr Asp
165 170 175
Gln Leu Leu Gln Gly Ser Glu Lys Gly Phe Gln Ser Arg His Leu Ala
180 185 190
Cys Leu Pro Arg Glu Pro Gly Leu Cys Thr Trp Gln Ser Leu Arg Ser
195 200 205

```
Gln Ile Ala
    210


<210> 33
<211> 160
<212> PRT
<213> Homo sapiens

<400> 33
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
  1               5                  10                  15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
            20                  25                  30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
        35                  40                  45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
    50                  55                  60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
65                  70                  75                  80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
                85                  90                  95
His Arg Ser His Asn Arg Ser Glu Glu Phe Leu Ile Leu Ser Ile Pro
            100                 105                 110
Cys Lys Leu Gln Ser Gly Thr His Cys Leu Trp Thr Asp Gln Leu Leu
        115                 120                 125
Gln Gly Ser Glu Lys Gly Phe Gln Ser Arg His Leu Ala Cys Leu Pro
    130                 135                 140
Arg Glu Pro Gly Leu Cys Thr Trp Gln Ser Leu Arg Ser Gln Ile Ala
145                 150                 155                 160


<210> 34
<211> 197
<212> PRT
<213> Homo sapiens

<400> 34
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
  1               5                  10                  15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
            20                  25                  30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
        35                  40                  45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
    50                  55                  60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
65                  70                  75                  80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
                85                  90                  95
His Arg Ala Gly Lys Leu Gln Asp Gly Leu Leu His Ile Thr Thr Cys
            100                 105                 110
Ser Phe Val Ala Pro Trp Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly
        115                 120                 125
Phe Thr Lys Thr Tyr Thr Val Gly Cys Glu Glu Cys Thr Val Phe Pro
    130                 135                 140
Cys Leu Ser Ile Pro Cys Lys Leu Gln Ser Gly Thr His Cys Leu Trp
145                 150                 155                 160
Thr Asp Gln Leu Leu Gln Gly Ser Glu Lys Gly Phe Gln Ser Arg His
                165                 170                 175
```

```
Leu Ala Cys Leu Pro Arg Glu Pro Gly Leu Cys Thr Trp Gln Ser Leu
            180                 185                 190
Arg Ser Gln Ile Ala
        195
```

<210> 35
<211> 494
<212> PRT
<213> Homo sapiens

<400> 35

```
Met Arg Ala Leu Leu Ala Arg Leu Leu Leu Cys Val Leu Val Val Ser
  1               5                  10                  15
Asp Ser Lys Gly Ser Asn Glu Leu His Gln Val Pro Ser Asn Cys Asp
             20                  25                  30
Cys Leu Asn Gly Gly Thr Cys Val Ser Asn Lys Tyr Phe Ser Asn Ile
         35                  40                  45
His Trp Cys Asn Cys Pro Lys Lys Phe Gly Gly Gln His Cys Glu Ile
     50                  55                  60
Asp Lys Ser Lys Thr Cys Tyr Glu Gly Asn Gly His Phe Tyr Arg Gly
 65                  70                  75                  80
Lys Ala Ser Thr Asp Thr Met Gly Arg Pro Cys Leu Pro Trp Asn Ser
                 85                  90                  95
Ala Thr Val Leu Gln Gln Thr Tyr His Ala His Arg Ser Asp Ala Leu
            100                 105                 110
Gln Leu Gly Leu Gly Lys His Asn Tyr Cys Arg Glu Val Gly Ala Gln
        115                 120                 125
Gly Pro Lys Ala Leu Pro Thr Val Pro Arg Asn Leu Val Thr Ile Pro
    130                 135                 140
Phe Ser Gln Arg Ala Gly His Ser Thr Arg Glu Val Gln Pro Leu Val
145                 150                 155                 160
Glu Ser Ser Leu Arg Gly Gly Gly Arg Glu Gly Pro Leu Gly Trp Asn
                165                 170                 175
Asp Ile Pro Tyr Leu Ser Val Leu Pro Gly Asn Pro Asp Asn Arg Arg
            180                 185                 190
Arg Pro Trp Cys Tyr Val Gln Val Gly Leu Lys Pro Leu Val Gln Glu
        195                 200                 205
Cys Met Val His Asp Cys Ala Asp Gly Lys Lys Pro Ser Ser Pro Pro
    210                 215                 220
Glu Glu Leu Lys Phe Gln Cys Gly Gln Lys Thr Leu Arg Pro Arg Phe
225                 230                 235                 240
Lys Ile Ile Gly Gly Glu Phe Thr Thr Ile Glu Asn Gln Pro Trp Phe
                245                 250                 255
Ala Ala Ile Tyr Arg Arg His Arg Gly Gly Ser Val Thr Tyr Val Cys
            260                 265                 270
Gly Gly Ser Leu Ile Ser Pro Cys Trp Val Ile Ser Ala Thr His Cys
        275                 280                 285
Phe Ile Asp Tyr Pro Lys Lys Glu Asp Tyr Ile Val Tyr Leu Gly Arg
    290                 295                 300
Ser Arg Leu Asn Ser Asn Thr Gln Gly Glu Met Lys Phe Glu Val Glu
305                 310                 315                 320
Asn Leu Ile Leu His Lys Asp Tyr Ser Ala Asp Thr Leu Ala His His
                325                 330                 335
Asn Asp Ile Ala Leu Leu Lys Ile Arg Ser Lys Glu Gly Arg Cys Ala
            340                 345                 350
Gln Pro Ser Arg Thr Ile Gln Thr Ile Cys Leu Pro Ser Met Tyr Asn
        355                 360                 365
Asp Pro Gln Phe Gly Thr Ser Cys Glu Ile Thr Gly Phe Gly Lys Glu
    370                 375                 380
```

```
Asn Ser Thr Asp Tyr Leu Tyr Pro Glu Gln Leu Lys Met Thr Val Val
385                 390                 395                 400
Lys Leu Ile Ser His Arg Glu Cys Gln Gln Pro His Tyr Tyr Gly Ser
                405                 410                 415
Glu Val Thr Thr Lys Met Leu Cys Ala Ala Asp Pro Gln Trp Lys Thr
            420                 425                 430
Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Ser Leu Gln
        435                 440                 445
Gly Arg Met Thr Leu Thr Gly Ile Val Ser Trp Gly Arg Gly Cys Ala
    450                 455                 460
Leu Lys Asp Lys Pro Gly Val Tyr Thr Arg Val Ser His Phe Leu Pro
465                 470                 475                 480
Trp Ile Arg Ser His Thr Lys Glu Glu Asn Gly Leu Ala Leu
                485                 490
```

<210> 36
<211> 285
<212> PRT
<213> Homo sapiens

<400> 36

```
Met Gln Met Ser Pro Ala Leu Thr Cys Leu Val Leu Gly Leu Ala Leu
  1               5                  10                  15
Val Phe Gly Glu Gly Ser Ala Val His His Pro Pro Ser Tyr Val Ala
            20                  25                  30
His Leu Ala Ser Asp Phe Gly Val Arg Val Phe Gln Gln Val Ala Gln
        35                  40                  45
Ala Ser Lys Asp Arg Asn Val Val Phe Ser Pro Tyr Gly Val Ala Ser
    50                  55                  60
Val Leu Ala Met Leu Gln Leu Thr Thr Gly Gly Glu Thr Gln Gln Gln
65                  70                  75                  80
Ile Gln Ala Ala Met Gly Phe Lys Ile Asp Asp Lys Gly Met Ala Pro
                85                  90                  95
Ala Leu Arg His Leu Tyr Lys Glu Leu Met Gly Pro Trp Asn Lys Asp
            100                 105                 110
Glu Ile Ser Thr Thr Asp Ala Ile Phe Val Gln Arg Asp Leu Lys Leu
        115                 120                 125
Val Gln Gly Phe Met Pro His Phe Phe Arg Leu Phe Arg Ser Thr Val
    130                 135                 140
Lys Gln Val Asp Phe Ser Glu Val Glu Arg Ala Arg Phe Ile Ile Asn
145                 150                 155                 160
Asp Trp Val Lys Thr His Thr Lys Gly Met Ile Ser Asn Leu Leu Gly
                165                 170                 175
Lys Gly Ala Val Asp Gln Leu Thr Arg Leu Val Leu Val Asn Ala Leu
            180                 185                 190
Tyr Phe Asn Gly Gln Trp Lys Thr Pro Phe Pro Asp Ser Ser Thr His
        195                 200                 205
Arg Arg Leu Phe His Lys Ser Asp Gly Ser Thr Val Ser Val Pro Met
    210                 215                 220
Met Ala Gln Thr Asn Lys Phe Asn Tyr Thr Glu Phe Thr Thr Pro Asp
225                 230                 235                 240
Gly His Tyr Tyr Asp Ile Leu Glu Leu Pro Tyr His Gly Asp Thr Leu
                245                 250                 255
Ser Met Phe Ile Ala Ala Asp Leu Val Pro Thr Glu Ala Leu Cys Arg
            260                 265                 270
Met Glu Leu Arg Gly Leu Gln Glu Leu Leu Cys Ala Trp
        275                 280                 285
```

<210> 37
<211> 399
<212> PRT
<213> Homo sapiens

<400> 37
Met Gln Met Ser Pro Ala Leu Thr Cys Leu Val Leu Gly Leu Ala Leu
1 5 10 15
Val Phe Gly Glu Gly Ser Ala Val His His Pro Pro Ser Tyr Val Ala
20 25 30
His Leu Ala Ser Asp Phe Gly Val Arg Val Phe Gln Gln Val Ala Gln
35 40 45
Ala Ser Lys Asp Arg Asn Val Val Phe Ser Pro Tyr Gly Val Ala Ser
50 55 60
Val Leu Ala Met Leu Gln Leu Thr Thr Gly Gly Glu Thr Gln Gln Gln
65 70 75 80
Ile Gln Ala Ala Met Gly Phe Lys Ile Asp Asp Lys Gly Met Ala Pro
85 90 95
Ala Leu Arg His Leu Tyr Lys Glu Leu Met Gly Pro Trp Asn Lys Asp
100 105 110
Glu Ile Ser Thr Thr Asp Ala Ile Phe Val Gln Arg Asp Leu Lys Leu
115 120 125
Val Gln Gly Phe Met Pro His Phe Phe Arg Leu Phe Arg Ser Thr Val
130 135 140
Lys Gln Val Asp Phe Ser Glu Val Glu Arg Ala Arg Phe Ile Ile Asn
145 150 155 160
Asp Trp Val Lys Thr His Thr Lys Gly Met Ile Ser Asn Leu Leu Gly
165 170 175
Lys Gly Ala Val Asp Gln Leu Thr Arg Leu Val Leu Val Asn Ala Leu
180 185 190
Tyr Phe Asn Gly Gln Trp Lys Thr Pro Phe Pro Asp Ser Ser Thr His
195 200 205
Arg Arg Leu Phe His Lys Ser Asp Gly Ser Thr Val Ser Val Pro Met
210 215 220
Met Ala Gln Thr Asn Lys Phe Asn Tyr Thr Glu Phe Thr Thr Pro Asp
225 230 235 240
Gly His Tyr Tyr Asp Ile Leu Glu Leu Pro Tyr His Gly Asp Thr Leu
245 250 255
Ser Met Phe Ile Ala Ala Pro Tyr Glu Lys Glu Val Pro Leu Ser Ala
260 265 270
Leu Thr Asn Ile Leu Ser Ala Gln Leu Ile Ser His Trp Lys Gly Asn
275 280 285
Met Thr Arg Leu Pro Arg Leu Leu Val Leu Pro Lys Phe Ser Leu Glu
290 295 300
Thr Glu Val Asp Leu Arg Lys Pro Leu Glu Asn Leu Gly Met Thr Asp
305 310 315 320
Met Phe Arg Gln Phe Gln Ala Asp Phe Thr Ser Leu Ser Asp Gln Glu
325 330 335
Pro Leu His Val Ala Gln Ala Leu Gln Lys Val Lys Ile Glu Val Asn
340 345 350
Glu Ser Gly Thr Val Ala Ser Ser Ser Thr Ala Val Ile Val Ser Ala
355 360 365
Arg Met Ala Pro Glu Glu Ile Ile Met Asp Arg Pro Phe Leu Phe Val
370 375 380
Val Pro Pro Gln Lys Gln Cys Ala Trp Val Ile Leu Glu Cys Arg
385 390 395

<210> 38
<211> 317

<212> PRT
<213> Homo sapiens

<400> 38
Met Thr Ala Ala Ser Met Gly Pro Val Arg Val Ala Phe Val Val Leu
1 5 10 15
Leu Ala Leu Cys Ser Arg Pro Ala Val Gly Gln Asn Cys Ser Gly Pro
20 25 30
Cys Arg Cys Pro Asp Glu Pro Ala Pro Arg Cys Pro Ala Gly Val Ser
35 40 45
Leu Val Leu Asp Gly Cys Gly Cys Cys Arg Val Cys Ala Lys Gln Leu
50 55 60
Gly Glu Leu Cys Thr Glu Arg Asp Pro Cys Asp Pro His Lys Gly Leu
65 70 75 80
Phe Cys Asp Phe Gly Ser Pro Ala Asn Arg Lys Ile Gly Val Cys Thr
85 90 95
Ala Lys Asp Gly Ala Pro Cys Ile Phe Gly Gly Thr Val Tyr Arg Ser
100 105 110
Gly Glu Ser Phe Gln Ser Ser Cys Lys Tyr Gln Cys Thr Cys Leu Asp
115 120 125
Gly Ala Val Gly Cys Met Pro Leu Cys Ser Met Asp Val Arg Leu Pro
130 135 140
Ser Pro Asp Cys Pro Leu Pro Leu Glu Asp Thr Phe Gly Pro Asp Pro
145 150 155 160
Thr Met Ile Arg Ala Asn Cys Leu Val Gln Thr Thr Glu Trp Ser Ala
165 170 175
Cys Ser Lys Thr Cys Gly Met Gly Ile Ser Thr Arg Val Thr Asn Asp
180 185 190
Asn Ala Ser Cys Arg Leu Glu Lys Gln Ser Arg Leu Cys Met Val Arg
195 200 205
Pro Cys Glu Ser Asp Leu Glu Glu Asn Ile Lys Lys Gly Lys Lys Cys
210 215 220
Ile Arg Thr Pro Lys Ile Ser Lys Pro Ile Lys Phe Glu Leu Ser Gly
225 230 235 240
Cys Thr Ser Met Lys Thr Tyr Arg Ala Lys Phe Cys Gly Val Cys Thr
245 250 255
Asp Gly Arg Cys Cys Thr Pro His Arg Thr Thr Thr Leu Pro Val Glu
260 265 270
Phe Lys Cys Pro Asp Gly Glu Val Met Lys Lys Asn Met Met Phe Ile
275 280 285
Lys Thr Cys Ala Cys His Tyr Asn Cys Pro Gly Asp Asn Asp Ile Phe
290 295 300
Glu Ser Leu Tyr Tyr Arg Lys Met Tyr Gly Asp Met Ala
305 310 315

<210> 39
<211> 342
<212> PRT
<213> Homo sapiens

<400> 39
Asn Met Glu Asn Ser Leu Arg Cys Val Trp Val Pro Lys Leu Ala Phe
1 5 10 15
Val Leu Phe Gly Ala Ser Leu Leu Ser Ala His Leu Gln Val Thr Gly
20 25 30
Phe Gln Ile Lys Ala Phe Thr Ala Leu Arg Phe Leu Ser Glu Pro Ser
35 40 45
Asp Ala Val Thr Met Arg Gly Gly Asn Val Leu Leu Asp Cys Ser Ala
50 55 60

```
Glu Ser Asp Arg Gly Val Pro Val Ile Lys Trp Lys Lys Asp Ala Ile
 65                  70                  75                  80
His Leu Ala Leu Gly Met Asp Glu Arg Lys Gln Gln Leu Ser Asn Gly
                 85                  90                  95
Ser Leu Leu Ile Gln Asn Ile Leu His Ser Arg His His Lys Pro Asp
            100                 105                 110
Glu Gly Leu Tyr Gln Cys Glu Ala Ser Leu Gly Asp Ser Gly Ser Ile
        115                 120                 125
Ile Ser Arg Thr Ala Lys Val Ala Val Ala Gly Pro Leu Arg Phe Leu
    130                 135                 140
Ser Gln Thr Glu Ser Val Thr Ala Phe Met Gly Asp Thr Val Leu Leu
145                 150                 155                 160
Lys Cys Glu Val Ile Gly Glu Pro Met Pro Thr Ile His Trp Gln Lys
                165                 170                 175
Asn Gln Gln Asp Leu Thr Pro Ile Pro Gly Asp Ser Arg Val Val Val
            180                 185                 190
Leu Pro Ser Gly Ala Leu Gln Ile Ser Arg Leu Gln Pro Gly Asp Ile
        195                 200                 205
Gly Ile Tyr Arg Cys Ser Ala Arg Asn Pro Ala Ser Ser Arg Thr Gly
    210                 215                 220
Asn Glu Ala Glu Val Arg Ile Leu Ser Asp Pro Gly Leu His Arg Gln
225                 230                 235                 240
Leu Tyr Phe Leu Gln Arg Pro Ser Asn Val Val Ala Ile Glu Gly Lys
                245                 250                 255
Asp Ala Val Leu Glu Cys Cys Val Ser Gly Tyr Pro Pro Pro Ser Phe
            260                 265                 270
Thr Trp Leu Arg Gly Glu Glu Val Ile Gln Leu Arg Ser Lys Lys Tyr
        275                 280                 285
Ser Leu Leu Gly Gly Ser Asn Leu Leu Ile Ser Asn Val Thr Asp Asp
    290                 295                 300
Asp Ser Gly Met Tyr Thr Cys Val Val Thr Tyr Lys Asn Glu Asn Ile
305                 310                 315                 320
Ser Ala Ser Ala Glu Leu Thr Val Leu Val Ile Ile Asp Lys Val Leu
                325                 330                 335
Val Asp Thr Phe Trp Val
            340
```

<210> 40
<211> 1433
<212> PRT
<213> Homo sapiens

<400> 40

```
Asn Met Glu Asn Ser Leu Arg Cys Val Trp Val Pro Lys Leu Ala Phe
  1               5                  10                  15
Val Leu Phe Gly Ala Ser Leu Leu Ser Ala His Leu Gln Val Thr Gly
             20                  25                  30
Phe Gln Ile Lys Ala Phe Thr Ala Leu Arg Phe Leu Ser Glu Pro Ser
         35                  40                  45
Asp Ala Val Thr Met Arg Gly Gly Asn Val Leu Leu Asp Cys Ser Ala
     50                  55                  60
Glu Ser Asp Arg Gly Val Pro Val Ile Lys Trp Lys Lys Asp Ala Ile
 65                  70                  75                  80
His Leu Ala Leu Gly Met Asp Glu Arg Lys Gln Gln Leu Ser Asn Gly
                 85                  90                  95
Ser Leu Leu Ile Gln Asn Ile Leu His Ser Arg His His Lys Pro Asp
            100                 105                 110
Glu Gly Leu Tyr Gln Cys Glu Ala Ser Leu Gly Asp Ser Gly Ser Ile
        115                 120                 125
```

```
Ile Ser Arg Thr Ala Lys Val Ala Val Ala Gly Pro Leu Arg Phe Leu
    130                 135                 140
Ser Gln Thr Glu Ser Val Thr Ala Phe Met Gly Asp Thr Val Leu Leu
145                 150                 155                 160
Lys Cys Glu Val Ile Gly Glu Pro Met Pro Thr Ile His Trp Gln Lys
                165                 170                 175
Asn Gln Gln Asp Leu Thr Pro Ile Pro Gly Asp Ser Arg Val Val Val
            180                 185                 190
Leu Pro Ser Gly Ala Leu Gln Ile Ser Arg Leu Gln Pro Gly Asp Ile
        195                 200                 205
Gly Ile Tyr Arg Cys Ser Ala Arg Asn Pro Ala Ser Ser Arg Thr Gly
    210                 215                 220
Asn Glu Ala Glu Val Arg Ile Leu Ser Asp Pro Gly Leu His Arg Gln
225                 230                 235                 240
Leu Tyr Phe Leu Gln Arg Pro Ser Asn Val Val Ala Ile Glu Gly Lys
                245                 250                 255
Asp Ala Val Leu Glu Cys Cys Val Ser Gly Tyr Pro Pro Pro Ser Phe
            260                 265                 270
Thr Trp Leu Arg Gly Glu Glu Val Ile Gln Leu Arg Ser Lys Lys Tyr
        275                 280                 285
Ser Leu Leu Gly Gly Ser Asn Leu Leu Ile Ser Asn Val Thr Asp Asp
    290                 295                 300
Asp Ser Gly Met Tyr Thr Cys Val Val Thr Tyr Lys Asn Glu Asn Ile
305                 310                 315                 320
Ser Ala Ser Ala Glu Leu Thr Val Leu Val Pro Pro Trp Phe Leu Asn
                325                 330                 335
His Pro Ser Asn Leu Tyr Ala Tyr Glu Ser Met Asp Ile Glu Phe Glu
            340                 345                 350
Cys Thr Val Ser Gly Lys Pro Val Pro Thr Val Asn Trp Met Lys Asn
        355                 360                 365
Gly Asp Val Val Ile Pro Ser Asp Tyr Phe Gln Ile Val Gly Gly Ser
    370                 375                 380
Asn Leu Arg Ile Leu Gly Val Val Lys Ser Asp Glu Gly Phe Tyr Gln
385                 390                 395                 400
Cys Val Ala Glu Asn Glu Ala Gly Asn Ala Gln Thr Ser Ala Gln Leu
                405                 410                 415
Ile Val Pro Lys Pro Ala Ile Pro Ser Ser Ser Val Leu Pro Ser Ala
            420                 425                 430
Pro Arg Asp Val Val Pro Val Leu Val Ser Ser Arg Phe Val Arg Leu
        435                 440                 445
Ser Trp Arg Pro Pro Ala Glu Ala Lys Gly Asn Ile Gln Thr Phe Thr
    450                 455                 460
Val Phe Phe Ser Arg Glu Gly Asp Asn Arg Glu Arg Ala Leu Asn Thr
465                 470                 475                 480
Thr Gln Pro Gly Ser Leu Gln Leu Thr Val Gly Asn Leu Lys Pro Glu
                485                 490                 495
Ala Met Tyr Thr Phe Arg Val Val Ala Tyr Asn Glu Trp Gly Pro Gly
            500                 505                 510
Glu Ser Ser Gln Pro Ile Lys Val Ala Thr Gln Pro Glu Leu Gln Val
        515                 520                 525
Pro Gly Pro Val Glu Asn Leu Gln Ala Val Ser Thr Ser Pro Thr Ser
    530                 535                 540
Ile Leu Ile Thr Trp Glu Pro Pro Ala Tyr Ala Asn Gly Pro Val Gln
545                 550                 555                 560
Gly Tyr Arg Leu Phe Cys Thr Glu Val Ser Thr Gly Lys Glu Gln Asn
                565                 570                 575
Ile Glu Val Asp Gly Leu Ser Tyr Lys Leu Glu Gly Leu Lys Lys Phe
            580                 585                 590
Thr Glu Tyr Ser Leu Arg Phe Leu Ala Tyr Asn Arg Tyr Gly Pro Gly
        595                 600                 605
```

```
Val Ser Thr Asp Asp Ile Thr Val Val Thr Leu Ser Asp Val Pro Ser
    610                 615                 620
Ala Pro Pro Gln Asn Val Ser Leu Glu Val Val Asn Ser Arg Ser Ile
625                 630                 635                 640
Lys Val Ser Trp Leu Pro Pro Pro Ser Gly Thr Gln Asn Gly Phe Ile
                645                 650                 655
Thr Gly Tyr Lys Ile Arg His Arg Lys Thr Thr Arg Arg Gly Glu Met
            660                 665                 670
Glu Thr Leu Glu Pro Asn Asn Leu Trp Tyr Leu Phe Thr Gly Leu Glu
        675                 680                 685
Lys Gly Ser Gln Tyr Ser Phe Gln Val Ser Ala Met Thr Val Asn Gly
    690                 695                 700
Thr Gly Pro Pro Ser Asn Trp Tyr Thr Ala Glu Thr Pro Glu Asn Asp
705                 710                 715                 720
Leu Asp Glu Ser Gln Val Pro Asp Gln Pro Ser Ser Leu His Val Arg
                725                 730                 735
Pro Gln Thr Asn Cys Ile Ile Met Ser Trp Thr Pro Pro Leu Asn Pro
            740                 745                 750
Asn Ile Val Val Arg Gly Tyr Ile Ile Gly Tyr Gly Val Gly Ser Pro
        755                 760                 765
Tyr Ala Glu Thr Val Arg Val Asp Ser Lys Gln Arg Tyr Tyr Ser Ile
    770                 775                 780
Glu Arg Leu Glu Ser Ser Ser His Tyr Val Ile Ser Leu Lys Ala Phe
785                 790                 795                 800
Asn Asn Ala Gly Glu Gly Val Pro Leu Tyr Glu Ser Ala Thr Thr Arg
                805                 810                 815
Ser Ile Thr Asp Pro Thr Asp Pro Val Asp Tyr Tyr Pro Leu Leu Asp
            820                 825                 830
Asp Phe Pro Thr Ser Val Pro Asp Leu Ser Thr Pro Met Leu Pro Pro
        835                 840                 845
Val Gly Val Gln Ala Val Ala Leu Thr His Asp Ala Val Arg Val Ser
    850                 855                 860
Trp Ala Asp Asn Ser Val Pro Lys Asn Gln Lys Thr Ser Glu Val Arg
865                 870                 875                 880
Leu Tyr Thr Val Arg Trp Arg Thr Ser Phe Ser Ala Ser Ala Lys Tyr
                885                 890                 895
Lys Ser Glu Asp Thr Thr Ser Leu Ser Tyr Thr Ala Thr Gly Leu Lys
            900                 905                 910
Pro Asn Thr Met Tyr Glu Phe Ser Val Met Val Thr Lys Asn Arg Arg
        915                 920                 925
Ser Ser Thr Trp Ser Met Thr Ala His Ala Thr Thr Tyr Glu Ala Ala
    930                 935                 940
Pro Thr Ser Ala Pro Lys Asp Phe Thr Val Ile Thr Arg Glu Gly Lys
945                 950                 955                 960
Pro Arg Ala Val Ile Val Ser Trp Gln Pro Pro Leu Glu Ala Asn Gly
                965                 970                 975
Lys Ile Thr Ala Tyr Ile Leu Phe Tyr Thr Leu Asp Lys Asn Ile Pro
            980                 985                 990
Ile Asp Asp Trp Ile Met Glu Thr Ile Ser Gly Asp Arg Leu Thr His
        995                1000                1005
Gln Ile Met Asp Leu Asn Leu Asp Thr Met Tyr Tyr Phe Arg Ile Gln
   1010                1015                1020
Ala Arg Asn Ser Lys Gly Val Gly Pro Leu Ser Asp Pro Ile Leu Phe
1025                1030                1035                1040
Arg Thr Leu Lys Val Glu His Pro Asp Lys Met Ala Asn Asp Gln Gly
                1045                1050                1055
Arg His Gly Asp Gly Gly Tyr Trp Pro Val Asp Thr Asn Leu Ile Asp
            1060                1065                1070
Arg Ser Thr Leu Asn Glu Pro Pro Ile Gly Gln Met His Pro Pro His
       1075                1080                1085
```

```
Gly Ser Val Thr Pro Gln Lys Asn Ser Asn Leu Leu Val Ile Ile Val
   1090                1095                1100
Val Thr Val Gly Val Ile Thr Val Leu Val Val Val Ile Val Ala Val
1105                1110                1115                1120
Ile Cys Thr Arg Arg Ser Ser Ala Gln Gln Arg Lys Lys Arg Ala Thr
                1125                1130                1135
His Ser Ala Gly Lys Arg Lys Gly Ser Gln Lys Asp Leu Arg Pro Pro
            1140                1145                1150
Asp Leu Trp Ile His His Glu Glu Met Glu Met Lys Asn Ile Glu Lys
        1155                1160                1165
Pro Ser Gly Thr Asp Pro Ala Gly Arg Asp Ser Pro Ile Gln Ser Cys
   1170                1175                1180
Gln Asp Leu Thr Pro Val Ser His Ser Gln Ser Glu Thr Gln Leu Gly
1185                1190                1195                1200
Ser Lys Ser Thr Ser His Ser Gly Gln Asp Thr Glu Glu Ala Gly Ser
                1205                1210                1215
Ser Met Ser Thr Leu Glu Arg Ser Leu Ala Ala Arg Arg Ala Pro Arg
            1220                1225                1230
Ala Lys Leu Met Ile Pro Met Asp Ala Gln Ser Asn Asn Pro Ala Val
        1235                1240                1245
Val Ser Ala Ile Pro Val Pro Thr Leu Glu Ser Ala Gln Tyr Pro Gly
   1250                1255                1260
Ile Leu Pro Ser Pro Thr Cys Gly Tyr Pro His Pro Gln Phe Thr Leu
1265                1270                1275                1280
Arg Pro Val Pro Phe Pro Thr Leu Ser Val Asp Arg Gly Phe Gly Ala
                1285                1290                1295
Gly Arg Ser Gln Ser Val Ser Glu Gly Pro Thr Thr Gln Gln Pro Pro
            1300                1305                1310
Met Leu Pro Pro Ser Gln Pro Glu His Ser Ser Ser Glu Glu Ala Pro
        1315                1320                1325
Ser Arg Thr Ile Pro Thr Ala Cys Val Arg Pro Thr His Pro Leu Arg
   1330                1335                1340
Ser Phe Ala Asn Pro Leu Leu Pro Pro Pro Met Ser Ala Ile Glu Pro
1345                1350                1355                1360
Lys Val Pro Tyr Thr Pro Leu Leu Ser Gln Pro Gly Pro Thr Leu Pro
                1365                1370                1375
Lys Thr His Val Lys Thr Ala Ser Leu Gly Leu Ala Gly Lys Ala Arg
            1380                1385                1390
Ser Pro Leu Leu Pro Val Ser Val Pro Thr Ala Pro Glu Val Ser Glu
        1395                1400                1405
Glu Ser His Lys Pro Thr Glu Asp Ser Ala Asn Val Ser Ala Ser Leu
   1410                1415                1420
Lys Phe Met Leu His Gln Gly Thr Asp
1425                1430


<210> 41
<211> 865
<212> PRT
<213> Homo sapiens

<400> 41
Met Pro Gly Lys Arg Gly Leu Gly Trp Trp Trp Ala Arg Leu Pro Leu
  1               5                  10                  15
Cys Leu Leu Leu Ser Leu Tyr Gly Pro Trp Met Pro Ser Ser Leu Gly
             20                  25                  30
Lys Pro Lys Gly His Pro His Met Asn Ser Ile Arg Ile Asp Gly Asp
         35                  40                  45
Ile Thr Leu Gly Gly Leu Phe Pro Val His Gly Arg Gly Ser Glu Gly
     50                  55                  60
```

```
Lys Pro Cys Gly Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu
 65                  70                  75                  80
Ala Met Leu Phe Ala Leu Asp Arg Ile Asn Asn Asp Pro Asp Leu Leu
                 85                  90                  95
Pro Asn Ile Thr Leu Gly Ala Arg Ile Leu Asp Thr Cys Ser Arg Asp
            100                 105                 110
Thr His Ala Leu Glu Gln Ser Leu Thr Phe Val Gln Ala Leu Ile Glu
        115                 120                 125
Lys Asp Gly Thr Glu Val Arg Cys Gly Ser Gly Gly Pro Pro Ile Ile
    130                 135                 140
Thr Lys Pro Glu Arg Val Val Gly Val Ile Gly Ala Ser Gly Ser Ser
145                 150                 155                 160
Val Ser Ile Met Val Ala Asn Ile Leu Arg Leu Phe Lys Ile Pro Gln
                165                 170                 175
Ile Ser Tyr Ala Ser Thr Ala Pro Asp Leu Ser Asp Asn Ser Arg Tyr
            180                 185                 190
Asp Phe Phe Ser Arg Val Val Pro Ser Asp Thr Tyr Gln Ala Gln Ala
        195                 200                 205
Met Val Asp Ile Val Arg Ala Leu Lys Trp Asn Tyr Val Ser Thr Val
    210                 215                 220
Ala Ser Glu Gly Ser Tyr Gly Glu Ser Gly Val Glu Ala Phe Ile Gln
225                 230                 235                 240
Lys Ser Arg Glu Asp Gly Gly Val Cys Ile Ala Gln Ser Val Lys Ile
                245                 250                 255
Pro Arg Glu Pro Lys Ala Gly Glu Phe Asp Lys Ile Ile Arg Arg Leu
            260                 265                 270
Leu Glu Thr Ser Asn Ala Arg Ala Val Ile Ile Phe Ala Asn Glu Asp
        275                 280                 285
Asp Ile Arg Arg Val Leu Glu Ala Ala Arg Arg Ala Asn Gln Thr Gly
    290                 295                 300
His Phe Phe Trp Met Gly Ser Asp Ser Trp Gly Ser Lys Ile Ala Pro
305                 310                 315                 320
Val Leu His Leu Glu Glu Val Ala Glu Gly Ala Val Thr Ile Leu Pro
                325                 330                 335
Lys Arg Met Ser Val Arg Asp Arg Glu Arg Ile Gly Gln Asp Ser Ala
            340                 345                 350
Tyr Glu Gln Glu Gly Lys Val Gln Phe Val Ile Asp Ala Val Tyr Ala
        355                 360                 365
Met Gly His Ala Leu His Ala Met His Arg Asp Leu Cys Pro Gly Arg
    370                 375                 380
Val Gly Leu Cys Pro Arg Met Asp Pro Val Asp Gly Thr Gln Leu Leu
385                 390                 395                 400
Lys Tyr Ile Arg Asn Val Asn Phe Ser Gly Ile Ala Gly Asn Pro Val
                405                 410                 415
Thr Phe Asn Glu Asn Gly Asp Ala Pro Gly Arg Tyr Asp Ile Tyr Gln
            420                 425                 430
Tyr Gln Leu Arg Asn Asp Ser Ala Glu Tyr Lys Val Ile Gly Ser Trp
        435                 440                 445
Thr Asp His Leu His Leu Arg Ile Glu Arg Met His Trp Pro Gly Ser
    450                 455                 460
Gly Gln Gln Leu Pro Arg Ser Ile Cys Ser Leu Pro Cys Gln Pro Gly
465                 470                 475                 480
Glu Arg Lys Lys Thr Val Lys Gly Met Pro Cys Cys Trp His Cys Glu
                485                 490                 495
Pro Cys Thr Gly Tyr Gln Tyr Gln Val Asp Arg Tyr Thr Cys Lys Thr
            500                 505                 510
Cys Pro Tyr Asp Met Arg Pro Thr Glu Asn Arg Thr Gly Cys Arg Pro
        515                 520                 525
Ile Pro Ile Ile Lys Leu Glu Trp Gly Ser Pro Trp Ala Val Leu Pro
    530                 535                 540
```

```
Leu Phe Leu Ala Val Val Gly Ile Ala Ala Thr Leu Phe Val Val Ile
545                 550                 555                 560
Thr Phe Val Arg Tyr Asn Asp Thr Pro Ile Val Lys Ala Ser Gly Arg
                565                 570                 575
Glu Leu Ser Tyr Val Leu Leu Ala Gly Ile Phe Leu Cys Tyr Ala Thr
            580                 585                 590
Thr Phe Leu Met Ile Ala Glu Pro Asp Leu Gly Thr Cys Ser Leu Arg
        595                 600                 605
Arg Ile Phe Leu Gly Leu Gly Met Ser Ile Ser Tyr Ala Ala Leu Leu
    610                 615                 620
Thr Lys Thr Asn Arg Ile Tyr Arg Ile Phe Glu Gln Gly Lys Arg Ser
625                 630                 635                 640
Val Ser Ala Pro Arg Phe Ile Ser Pro Ala Ser Gln Leu Ala Ile Thr
                645                 650                 655
Phe Ser Leu Ile Ser Leu Gln Leu Leu Gly Ile Cys Val Trp Phe Val
            660                 665                 670
Val Asp Pro Ser His Ser Val Val Asp Phe Gln Asp Gln Arg Thr Leu
        675                 680                 685
Asp Pro Arg Phe Ala Arg Gly Val Leu Lys Cys Asp Ile Ser Asp Leu
    690                 695                 700
Ser Leu Ile Cys Leu Leu Gly Tyr Ser Met Leu Leu Met Val Thr Cys
705                 710                 715                 720
Thr Val Tyr Ala Ile Lys Thr Arg Gly Val Pro Glu Thr Phe Asn Glu
                725                 730                 735
Ala Lys Pro Ile Gly Phe Thr Met Tyr Thr Thr Cys Ile Val Trp Leu
            740                 745                 750
Ala Phe Ile Pro Ile Phe Phe Gly Thr Ser Gln Ser Ala Asp Lys Leu
        755                 760                 765
Tyr Ile Gln Thr Thr Thr Leu Thr Val Ser Val Ser Leu Ser Ala Ser
    770                 775                 780
Val Ser Leu Gly Met Leu Tyr Met Pro Lys Val Tyr Ile Ile Leu Phe
785                 790                 795                 800
His Pro Glu Gln Asn Val Pro Lys Arg Lys Arg Ser Leu Lys Ala Val
                805                 810                 815
Val Thr Ala Ala Thr Met Ser Asn Lys Phe Thr Gln Lys Gly Asn Phe
            820                 825                 830
Arg Pro Asn Gly Glu Ala Lys Ser Glu Leu Cys Glu Asn Leu Glu Ala
        835                 840                 845
Pro Ala Leu Ala Thr Lys Gln Thr Tyr Val Thr Tyr Thr Asn His Ala
    850                 855                 860
Ile
865
```

<210> 42
<211> 845
<212> PRT
<213> Homo sapiens

<400> 42

```
Met Glu Thr Lys Gly Tyr His Ser Leu Pro Glu Gly Leu Asp Met Glu
  1               5                  10                  15
Arg Arg Trp Gly Gln Val Ser Gln Ala Val Glu Arg Ser Ser Leu Gly
             20                  25                  30
Pro Thr Glu Arg Thr Asp Glu Asn Asn Tyr Met Glu Ile Val Asn Val
         35                  40                  45
Ser Cys Val Ser Gly Ala Ile Pro Asn Asn Ser Thr Gln Gly Ser Ser
     50                  55                  60
Lys Glu Lys Gln Glu Leu Leu Pro Cys Leu Gln Gln Asp Asn Asn Arg
 65                  70                  75                  80
```

```
Pro Gly Ile Leu Thr Ser Asp Ile Lys Thr Glu Leu Glu Ser Lys Glu
                 85                  90                  95
Leu Ser Ala Thr Val Ala Glu Ser Met Gly Leu Tyr Met Asp Ser Val
            100                 105                 110
Arg Asp Ala Asp Tyr Ser Tyr Glu Gln Gln Asn Gln Gln Gly Ser Met
        115                 120                 125
Ser Pro Ala Lys Ile Tyr Gln Asn Val Glu Gln Leu Val Lys Phe Tyr
    130                 135                 140
Lys Gly Asn Gly His Arg Pro Ser Thr Leu Ser Cys Val Asn Thr Pro
145                 150                 155                 160
Leu Arg Ser Phe Met Ser Asp Ser Gly Ser Ser Val Asn Gly Gly Val
                165                 170                 175
Met Arg Ala Ile Val Lys Ser Pro Ile Met Cys His Glu Lys Ser Pro
            180                 185                 190
Ser Val Cys Ser Pro Leu Asn Met Thr Ser Ser Val Cys Ser Pro Ala
        195                 200                 205
Gly Ile Asn Ser Val Ser Ser Thr Thr Ala Ser Phe Gly Ser Phe Pro
    210                 215                 220
Val His Ser Pro Ile Thr Gln Gly Thr Pro Leu Thr Cys Ser Pro Asn
225                 230                 235                 240
Ala Glu Asn Arg Gly Ser Arg Ser His Ser Pro Ala His Ala Ser Asn
                245                 250                 255
Val Gly Ser Pro Leu Ser Ser Pro Leu Ser Ser Met Lys Ser Ser Ile
            260                 265                 270
Ser Ser Pro Pro Ser His Cys Ser Val Lys Ser Pro Val Ser Ser Pro
        275                 280                 285
Asn Asn Val Thr Leu Arg Ser Ser Val Ser Ser Pro Ala Asn Ile Asn
    290                 295                 300
Asn Ser Arg Cys Ser Val Ser Ser Pro Ser Asn Thr Asn Asn Arg Ser
305                 310                 315                 320
Thr Leu Ser Ser Pro Ala Ala Ser Thr Val Gly Ser Ile Cys Ser Pro
                325                 330                 335
Val Asn Asn Ala Phe Ser Tyr Thr Ala Ser Gly Thr Ser Ala Gly Ser
            340                 345                 350
Ser Thr Leu Arg Asp Val Val Pro Ser Pro Asp Thr Gln Glu Lys Gly
        355                 360                 365
Ala Gln Glu Val Pro Phe Pro Lys Thr Glu Glu Val Glu Ser Ala Ile
    370                 375                 380
Ser Asn Gly Val Thr Gly Gln Leu Asn Ile Val Gln Tyr Ile Lys Pro
385                 390                 395                 400
Glu Pro Asp Gly Ala Phe Ser Ser Ser Cys Leu Gly Gly Asn Ser Lys
                405                 410                 415
Ile Asn Ser Asp Ser Ser Phe Ser Val Pro Ile Lys Gln Glu Ser Thr
            420                 425                 430
Lys His Ser Cys Ser Gly Thr Ser Phe Lys Gly Asn Pro Thr Val Asn
        435                 440                 445
Pro Phe Pro Phe Met Asp Gly Ser Tyr Phe Ser Phe Met Asp Asp Lys
    450                 455                 460
Asp Tyr Tyr Ser Leu Ser Gly Ile Leu Gly Pro Pro Val Pro Gly Phe
465                 470                 475                 480
Asp Gly Asn Cys Glu Gly Ser Gly Phe Pro Val Gly Ile Lys Gln Glu
                485                 490                 495
Pro Asp Asp Gly Ser Tyr Tyr Pro Glu Ala Ser Ile Pro Ser Ser Ala
            500                 505                 510
Ile Val Gly Val Asn Ser Gly Gly Gln Ser Phe His Tyr Arg Ile Gly
        515                 520                 525
Ala Gln Gly Thr Ile Ser Leu Ser Arg Ser Ala Arg Asp Gln Ser Phe
    530                 535                 540
Gln His Leu Ser Ser Phe Pro Pro Val Asn Thr Leu Val Glu Ser Trp
545                 550                 555                 560
```

```
Lys Ser His Gly Asp Leu Ser Ser Arg Arg Ser Asp Gly Tyr Pro Val
                565                 570                 575
Leu Glu Tyr Ile Pro Glu Asn Val Ser Ser Ser Thr Leu Arg Ser Val
            580                 585                 590
Ser Thr Gly Ser Ser Arg Pro Ser Lys Ile Cys Leu Val Cys Gly Asp
        595                 600                 605
Glu Ala Ser Gly Cys His Tyr Gly Val Val Thr Cys Gly Ser Cys Lys
    610                 615                 620
Val Phe Phe Lys Arg Ala Val Glu Gly Gln His Asn Tyr Leu Cys Ala
625                 630                 635                 640
Gly Arg Asn Asp Cys Ile Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro
                645                 650                 655
Ala Cys Arg Leu Gln Lys Cys Leu Gln Ala Gly Met Asn Leu Gly Ala
            660                 665                 670
Arg Lys Ser Lys Lys Leu Gly Lys Leu Lys Gly Ile His Glu Glu Gln
        675                 680                 685
Pro Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Pro Pro Gln Ser Pro
    690                 695                 700
Glu Glu Gly Thr Thr Tyr Ile Ala Pro Ala Lys Glu Pro Ser Val Asn
705                 710                 715                 720
Thr Ala Leu Val Pro Gln Leu Ser Thr Ile Ser Arg Ala Leu Thr Pro
                725                 730                 735
Ser Pro Val Met Val Leu Glu Asn Ile Glu Pro Glu Ile Val Tyr Ala
            740                 745                 750
Gly Tyr Asp Ser Ser Lys Pro Asp Thr Ala Glu Asn Leu Leu Ser Thr
        755                 760                 765
Leu Asn Arg Leu Ala Gly Lys Gln Met Ile Gln Val Val Lys Trp Ala
    770                 775                 780
Lys Val Leu Pro Gly Phe Lys Asn Leu Pro Leu Glu Asp Gln Ile Thr
785                 790                 795                 800
Leu Ile Gln Tyr Ser Trp Met Cys Leu Ser Ser Phe Ala Leu Ser Trp
                805                 810                 815
Arg Ser Tyr Lys His Thr Asn Ser Gln Phe Leu Tyr Phe Ala Pro Asp
            820                 825                 830
Leu Val Phe Asn Glu Leu Leu Ala Arg Val Arg Glu Gly
        835                 840                 845
```

<210> 43
<211> 837
<212> PRT
<213> Homo sapiens

<400> 43

```
Met Glu Thr Lys Gly Tyr His Ser Leu Pro Glu Gly Leu Asp Met Glu
  1               5                  10                  15
Arg Arg Trp Gly Gln Val Ser Gln Ala Val Glu Arg Ser Ser Leu Gly
             20                  25                  30
Pro Thr Glu Arg Thr Asp Glu Asn Asn Tyr Met Glu Ile Val Asn Val
         35                  40                  45
Ser Cys Val Ser Gly Ala Ile Pro Asn Asn Ser Thr Gln Gly Ser Ser
     50                  55                  60
Lys Glu Lys Gln Glu Leu Leu Pro Cys Leu Gln Gln Asp Asn Asn Arg
 65                  70                  75                  80
Pro Gly Ile Leu Thr Ser Asp Ile Lys Thr Glu Leu Glu Ser Lys Glu
                 85                  90                  95
Leu Ser Ala Thr Val Ala Glu Ser Met Gly Leu Tyr Met Asp Ser Val
            100                 105                 110
Arg Asp Ala Asp Tyr Ser Tyr Glu Gln Gln Asn Gln Gln Gly Ser Met
        115                 120                 125
```

```
Ser Pro Ala Lys Ile Tyr Gln Asn Val Glu Gln Leu Val Lys Phe Tyr
    130                 135                 140
Lys Gly Asn Gly His Arg Pro Ser Thr Leu Ser Cys Val Asn Thr Pro
145                 150                 155                 160
Leu Arg Ser Phe Met Ser Asp Ser Gly Ser Ser Val Asn Gly Gly Val
                165                 170                 175
Met Arg Ala Ile Val Lys Ser Pro Ile Met Cys His Glu Lys Ser Pro
            180                 185                 190
Ser Val Cys Ser Pro Leu Asn Met Thr Ser Ser Val Cys Ser Pro Ala
        195                 200                 205
Gly Ile Asn Ser Val Ser Ser Thr Thr Ala Ser Phe Gly Ser Phe Pro
    210                 215                 220
Val His Ser Pro Ile Thr Gln Gly Thr Pro Leu Thr Cys Ser Pro Asn
225                 230                 235                 240
Ala Glu Asn Arg Gly Ser Arg Ser His Ser Pro Ala His Ala Ser Asn
                245                 250                 255
Val Gly Ser Pro Leu Ser Ser Pro Leu Ser Ser Met Lys Ser Ser Ile
            260                 265                 270
Ser Ser Pro Pro Ser His Cys Ser Val Lys Ser Pro Val Ser Ser Pro
        275                 280                 285
Asn Asn Val Thr Leu Arg Ser Ser Val Ser Ser Pro Ala Asn Ile Asn
    290                 295                 300
Asn Ser Arg Cys Ser Val Ser Ser Pro Ser Asn Thr Asn Asn Arg Ser
305                 310                 315                 320
Thr Leu Ser Ser Pro Ala Ala Ser Thr Val Gly Ser Ile Cys Ser Pro
                325                 330                 335
Val Asn Asn Ala Phe Ser Tyr Thr Ala Ser Gly Thr Ser Ala Gly Ser
            340                 345                 350
Ser Thr Leu Arg Asp Val Val Pro Ser Pro Asp Thr Gln Glu Lys Gly
        355                 360                 365
Ala Gln Glu Val Pro Phe Pro Lys Thr Glu Glu Val Glu Ser Ala Ile
    370                 375                 380
Ser Asn Gly Val Thr Gly Gln Leu Asn Ile Val Gln Tyr Ile Lys Pro
385                 390                 395                 400
Glu Pro Asp Gly Ala Phe Ser Ser Ser Cys Leu Gly Gly Asn Ser Lys
                405                 410                 415
Ile Asn Ser Asp Ser Ser Phe Ser Val Pro Ile Lys Gln Glu Ser Thr
            420                 425                 430
Lys His Ser Cys Ser Gly Thr Ser Phe Lys Gly Asn Pro Thr Val Asn
        435                 440                 445
Pro Phe Pro Phe Met Asp Gly Ser Tyr Phe Ser Phe Met Asp Asp Lys
    450                 455                 460
Asp Tyr Tyr Ser Leu Ser Gly Ile Leu Gly Pro Pro Val Pro Gly Phe
465                 470                 475                 480
Asp Gly Asn Cys Glu Gly Ser Gly Phe Pro Val Gly Ile Lys Gln Glu
                485                 490                 495
Pro Asp Asp Gly Ser Tyr Tyr Pro Glu Ala Ser Ile Pro Ser Ser Ala
            500                 505                 510
Ile Val Gly Val Asn Ser Gly Gly Gln Ser Phe His Tyr Arg Ile Gly
        515                 520                 525
Ala Gln Gly Thr Ile Ser Leu Ser Arg Ser Ala Arg Asp Gln Ser Phe
    530                 535                 540
Gln His Leu Ser Ser Phe Pro Pro Val Asn Thr Leu Val Glu Ser Trp
545                 550                 555                 560
Lys Ser His Gly Asp Leu Ser Ser Arg Arg Ser Asp Gly Tyr Pro Val
                565                 570                 575
Leu Glu Tyr Ile Pro Glu Asn Val Ser Ser Ser Thr Leu Arg Ser Val
            580                 585                 590
Ser Thr Gly Ser Ser Arg Pro Ser Lys Ile Cys Leu Val Cys Gly Asp
        595                 600                 605
```

```
Glu Ala Ser Gly Cys His Tyr Gly Val Val Thr Cys Gly Ser Cys Lys
    610                 615                 620
Val Phe Phe Lys Arg Ala Val Glu Gly Gln His Asn Tyr Leu Cys Ala
625                 630                 635                 640
Gly Arg Asn Asp Cys Ile Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro
                645                 650                 655
Ala Cys Arg Leu Gln Lys Cys Leu Gln Ala Gly Met Asn Leu Gly Ala
            660                 665                 670
Arg Lys Ser Lys Lys Leu Gly Lys Leu Lys Gly Ile His Glu Glu Gln
        675                 680                 685
Pro Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Pro Pro Gln Ser Pro
    690                 695                 700
Glu Glu Gly Thr Thr Tyr Ile Ala Pro Ala Lys Glu Pro Ser Val Asn
705                 710                 715                 720
Thr Ala Leu Val Pro Gln Leu Ser Thr Ile Ser Arg Ala Leu Thr Pro
                725                 730                 735
Ser Pro Val Met Val Leu Glu Asn Ile Glu Pro Glu Ile Val Tyr Ala
            740                 745                 750
Gly Tyr Asp Ser Ser Lys Pro Asp Thr Ala Glu Asn Leu Leu Ser Thr
        755                 760                 765
Leu Asn Arg Leu Ala Gly Lys Gln Met Ile Gln Val Val Lys Trp Ala
    770                 775                 780
Lys Val Leu Pro Gly Phe Lys Asn Leu Pro Leu Glu Asp Gln Ile Thr
785                 790                 795                 800
Leu Ile Gln Tyr Ser Trp Met Cys Leu Ser Ser Phe Ala Leu Ser Trp
                805                 810                 815
Arg Ser Tyr Lys His Thr Asn Ser Gln Phe Leu Tyr Phe Ala Pro Asp
            820                 825                 830
Leu Val Phe Asn Glu
        835
```

<210> 44
<211> 640
<212> PRT
<213> Homo sapiens

<400> 44

```
Met Gly Arg Leu Gln Leu Val Val Leu Gly Leu Thr Cys Cys Trp Ala
  1               5                  10                  15
Val Ala Ser Ala Ala Lys Leu Gly Ala Val Tyr Thr Glu Gly Gly Phe
             20                  25                  30
Val Glu Gly Val Asn Lys Lys Leu Gly Leu Leu Gly Asp Ser Val Asp
         35                  40                  45
Ile Phe Lys Gly Ile Pro Phe Ala Ala Pro Thr Lys Ala Leu Glu Asn
     50                  55                  60
Pro Gln Pro His Pro Gly Trp Gln Gly Thr Leu Lys Ala Lys Asn Phe
 65                  70                  75                  80
Lys Lys Arg Cys Leu Gln Ala Thr Ile Thr Gln Asp Ser Thr Tyr Gly
                 85                  90                  95
Asp Glu Asp Cys Leu Tyr Leu Asn Ile Trp Val Pro Gln Gly Arg Lys
            100                 105                 110
Gln Val Ser Arg Asp Leu Pro Val Met Ile Trp Ile Tyr Gly Gly Ala
        115                 120                 125
Phe Leu Met Gly Ser Gly His Gly Ala Asn Phe Leu Asn Asn Tyr Leu
    130                 135                 140
Tyr Asp Gly Glu Glu Ile Ala Thr Arg Gly Asn Val Ile Val Val Thr
145                 150                 155                 160
Phe Asn Tyr Arg Val Gly Pro Leu Gly Phe Leu Ser Thr Gly Asp Ala
                165                 170                 175
```

```
Asn Leu Pro Gly Asn Tyr Gly Leu Arg Asp Gln His Met Ala Ile Ala
            180                 185                 190
Trp Val Lys Arg Asn Ile Ala Ala Phe Gly Gly Asp Pro Asn Asn Ile
        195                 200                 205
Thr Leu Phe Gly Glu Ser Ala Gly Gly Ala Ser Val Ser Leu Gln Thr
    210                 215                 220
Leu Ser Pro Tyr Asn Lys Gly Leu Ile Arg Arg Ala Ile Ser Gln Ser
225                 230                 235                 240
Gly Val Ala Leu Ser Pro Trp Val Ile Gln Lys Asn Pro Leu Phe Trp
                245                 250                 255
Ala Lys Lys Val Ala Glu Lys Val Gly Cys Pro Val Gly Asp Ala Ala
            260                 265                 270
Arg Met Ala Gln Cys Leu Lys Val Thr Asp Pro Arg Ala Leu Thr Leu
        275                 280                 285
Ala Tyr Lys Val Pro Leu Ala Gly Leu Glu Tyr Pro Met Leu His Tyr
    290                 295                 300
Val Gly Phe Val Pro Val Ile Asp Gly Asp Phe Ile Pro Ala Asp Pro
305                 310                 315                 320
Ile Asn Leu Tyr Ala Asn Ala Ala Asp Ile Asp Tyr Ile Ala Gly Thr
                325                 330                 335
Asn Asn Met Asp Gly His Ile Phe Ala Ser Ile Asp Met Pro Ala Ile
            340                 345                 350
Asn Lys Gly Asn Lys Lys Val Thr Glu Glu Asp Phe Tyr Lys Leu Val
        355                 360                 365
Ser Glu Phe Thr Ile Thr Lys Gly Leu Arg Gly Ala Lys Thr Thr Phe
    370                 375                 380
Asp Val Tyr Thr Glu Ser Trp Ala Gln Asp Pro Ser Gln Glu Asn Lys
385                 390                 395                 400
Lys Lys Thr Val Val Asp Phe Glu Thr Asp Val Leu Phe Leu Val Pro
                405                 410                 415
Thr Glu Ile Ala Leu Ala Gln His Arg Ala Asn Ala Lys Ser Ala Lys
            420                 425                 430
Thr Tyr Ala Tyr Leu Phe Ser His Pro Ser Arg Met Pro Val Tyr Pro
        435                 440                 445
Lys Trp Val Gly Ala Asp His Ala Asp Asp Ile Gln Tyr Val Phe Gly
    450                 455                 460
Lys Pro Phe Ala Thr Pro Thr Gly Tyr Arg Pro Gln Asp Arg Thr Val
465                 470                 475                 480
Ser Lys Ala Met Ile Ala Tyr Trp Thr Asn Phe Ala Lys Thr Gly Asp
                485                 490                 495
Pro Asn Met Gly Asp Ser Ala Val Pro Thr His Trp Glu Pro Tyr Thr
            500                 505                 510
Thr Glu Asn Ser Gly Tyr Leu Glu Ile Thr Lys Lys Met Gly Ser Ser
        515                 520                 525
Ser Met Lys Arg Ser Leu Arg Thr Asn Phe Leu Arg Tyr Trp Thr Leu
    530                 535                 540
Thr Tyr Leu Ala Leu Pro Thr Val Thr Asp Gln Glu Ala Thr Pro Val
545                 550                 555                 560
Pro Pro Thr Gly Asp Ser Glu Ala Thr Pro Val Pro Pro Thr Gly Asp
                565                 570                 575
Ser Glu Thr Ala Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro
            580                 585                 590
Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly
        595                 600                 605
Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro
    610                 615                 620
Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Pro
625                 630                 635                 640
```

<210> 45
<211> 201
<212> PRT
<213> Homo sapiens

<400> 45
Met Arg Ala Leu Leu Ala Arg Leu Leu Leu Cys Val Leu Val Val Ser
1 5 10 15
Asp Ser Lys Gly Ser Asn Glu Leu His Gln Val Pro Ser Asn Cys Asp
20 25 30
Cys Leu Asn Gly Gly Thr Cys Val Ser Asn Lys Tyr Phe Ser Asn Ile
35 40 45
His Trp Cys Asn Cys Pro Lys Lys Phe Gly Gly Gln His Cys Glu Ile
50 55 60
Asp Lys Ser Lys Thr Cys Tyr Glu Gly Asn Gly His Phe Tyr Arg Gly
65 70 75 80
Lys Ala Ser Thr Asp Thr Met Gly Arg Pro Cys Leu Pro Trp Asn Ser
85 90 95
Ala Thr Val Leu Gln Gln Thr Tyr His Ala His Arg Ser Asp Ala Leu
100 105 110
Gln Leu Gly Leu Gly Lys His Asn Tyr Cys Arg Glu Val Gly Ala Gln
115 120 125
Gly Pro Lys Ala Leu Pro Thr Val Pro Arg Asn Leu Val Thr Ile Pro
130 135 140
Phe Ser Gln Arg Ala Gly His Ser Thr Arg Glu Val Gln Pro Leu Val
145 150 155 160
Glu Ser Ser Leu Arg Gly Gly Gly Arg Glu Gly Pro Leu Gly Trp Asn
165 170 175
Asp Ile Pro Tyr Leu Ser Val Leu Pro Gly Thr Gln Thr Thr Gly Gly
180 185 190
Asp Pro Gly Ala Met Cys Arg Trp Ala
195 200

<210> 46
<211> 74
<212> PRT
<213> Homo sapiens

<400> 46
Met Lys Thr Tyr Arg Ala Lys Phe Cys Gly Val Cys Thr Asp Gly Arg
1 5 10 15
Cys Cys Thr Pro His Arg Thr Thr Thr Leu Pro Val Glu Phe Lys Cys
20 25 30
Pro Asp Gly Glu Val Met Lys Lys Asn Met Met Phe Ile Lys Thr Cys
35 40 45
Ala Cys His Tyr Asn Cys Pro Gly Asp Asn Asp Ile Phe Glu Ser Leu
50 55 60
Tyr Tyr Arg Lys Met Tyr Gly Asp Met Ala
65 70

<210> 47
<211> 166
<212> PRT
<213> Homo sapiens

<400> 47
Met Thr Ala Ala Ser Met Gly Pro Val Arg Val Ala Phe Val Val Leu
1 5 10 15

```
Leu Ala Leu Cys Ser Arg Pro Ala Val Gly Gln Asn Cys Ser Gly Pro
            20                  25                  30
Cys Arg Cys Pro Asp Glu Pro Ala Pro Arg Cys Pro Ala Gly Val Ser
        35                  40                  45
Leu Val Leu Asp Gly Cys Gly Cys Cys Arg Val Cys Ala Lys Gln Leu
    50                  55                  60
Gly Glu Leu Cys Thr Glu Arg Asp Pro Cys Asp Pro His Lys Gly Leu
65                  70                  75                  80
Phe Cys Asp Phe Gly Ser Pro Ala Asn Arg Lys Ile Gly Val Cys Thr
                85                  90                  95
Ala Lys Asp Gly Ala Pro Cys Ile Phe Gly Gly Thr Val Tyr Arg Ser
            100                 105                 110
Gly Glu Ser Phe Gln Ser Ser Cys Lys Tyr Gln Cys Thr Cys Leu Asp
        115                 120                 125
Gly Ala Val Gly Cys Met Pro Leu Cys Ser Met Asp Val Arg Leu Pro
    130                 135                 140
Ser Pro Asp Cys Pro Phe Pro Ser Leu Pro Thr Gly Arg His Val Trp
145                 150                 155                 160
Pro Arg Pro Asn Tyr Asp
                165
```

<210> 48
<211> 140
<212> PRT
<213> Homo sapiens

<400> 48

```
Met Glu Asn Ser Leu Arg Cys Val Trp Val Pro Lys Leu Ala Phe Val
  1               5                  10                  15
Leu Phe Gly Ala Ser Leu Leu Ser Ala His Leu Gln Val Thr Gly Phe
            20                  25                  30
Gln Ile Lys Ala Phe Thr Ala Leu Arg Phe Leu Ser Glu Pro Ser Asp
        35                  40                  45
Ala Val Thr Met Arg Gly Gly Asn Val Leu Leu Asp Cys Ser Ala Glu
    50                  55                  60
Ser Asp Arg Gly Val Pro Val Ile Lys Trp Lys Lys Asp Cys Ile His
65                  70                  75                  80
Leu Ala Leu Gly Met Asp Glu Arg Lys Gln Gln Leu Ser Asn Gly Ser
                85                  90                  95
Leu Leu Ile Gln Asn Ile Leu His Ser Arg His His Lys Pro Asp Glu
            100                 105                 110
Gly Leu Tyr Gln Cys Glu Ala Ser Leu Gly Asp Ser Gly Ser Ile Ile
        115                 120                 125
Ser Arg Thr Ala Lys Val Ala Val Ala Gly Pro Thr
    130                 135                 140
```

<210> 49
<211> 147
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(147)
<223> any Xaa is any amino acid, unknown, or other

<400> 49

```
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
  1               5                  10                  15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
            20                  25                  30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
        35                  40                  45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
    50                  55                  60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Xaa Asp Ala Ala Asp
65                  70                  75                  80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
                85                  90                  95
His Arg Ser His Asn Arg Ser Arg Gly Val Ser His Cys Trp Lys Thr
            100                 105                 110
Ala Gly Trp Thr Leu Ala His His Tyr Leu Gln Phe Arg Gly Ser Leu
        115                 120                 125
Glu Gln Pro Glu Leu Ser Ser Ala Pro Gly Leu His Gln Asp Leu His
    130                 135                 140
Cys Trp Leu
145
```

<210> 50
<211> 82
<212> PRT
<213> Homo sapiens

<400> 50

```
Met Ser Val Lys Glu Thr Leu Pro Leu Ile His Gln Gln Met Tyr Lys
  1               5                  10                  15
Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp Ile Arg Phe Val Tyr Thr
            20                  25                  30
Pro Ala Met Glu Ser Val Cys Gly Tyr Phe His Arg Ser His Asn Arg
        35                  40                  45
Ser Glu Glu Phe Leu Ile Ala Gly Glu Ala Pro Ser Pro Arg Pro Val
    50                  55                  60
Pro His Gln Pro Val Pro Gly Ala Arg Pro Ser Asn His Glu Gly Ala
65                  70                  75                  80
Arg Leu
```

<210> 51
<211> 115
<212> PRT
<213> Homo sapiens

<400> 51

```
Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
  1               5                  10                  15
Leu Ile Ala Pro Ser Arg Ala Cys Thr Cys Val Pro Pro His Pro Gln
            20                  25                  30
Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg Ala Lys Phe Val Gly
        35                  40                  45
Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys
    50                  55                  60
Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
65                  70                  75                  80
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
                85                  90                  95
```

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His Arg Met Asp Ser Cys Thr Ser Leu Pro Ala Val Ser Trp Leu Pro
            100                 105                 110
Gly Thr Ala
        115
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<210> 52
<211> 143
<212> PRT
<213> Homo sapiens

<400> 52

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Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp
  1               5                  10                  15
Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser Val Cys Gly Tyr Phe
             20                  25                  30
His Arg Ser His Asn Arg Ser Glu Glu Phe Leu Ile Ala Gly Lys Leu
         35                  40                  45
Gln Asp Gly Leu Leu His Ile Thr Thr Cys Ser Phe Val Ala Pro Trp
     50                  55                  60
Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly Phe Thr Lys Thr Tyr Thr
 65                  70                  75                  80
Val Gly Cys Glu Glu Cys Thr Val Phe Pro Cys Leu Ser Ile Pro Cys
                 85                  90                  95
Lys Leu Gln Ser Gly Thr His Cys Leu Trp Thr Asp Gln Leu Leu Gln
            100                 105                 110
Gly Ser Glu Lys Gly Phe Gln Ser Arg His Leu Ala Cys Leu Pro Arg
        115                 120                 125
Glu Pro Gly Leu Cys Thr Trp Gln Ser Leu Arg Ser Gln Ile Ala
    130                 135                 140
```